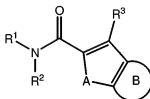


AMENDMENTS TO THE CLAIMS

Applicants respectfully request that claims be amended without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A compound of the formula (I):



in which

R¹ represents 1-azabicyclo[2.2.2]oct-3-yl,

R² represents hydrogen or C₁-C₆-alkyl,

R³ represents hydrogen, halogen or C₁-C₆-alkyl,

A represents oxygen or sulfur,

and

the ring B represents benzo, pyrimido, pyrimidazo or pyridazino which is substituted by a radicals selected from the group consisting of halogen, C₁-C₆-alkanoyl, carbamoyl, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C₁-C₆-acylamino, C₁-C₆-alkyl, C₁-C₆-alkyloxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino, heteroarylcarbonylamino, arylcarbonylamino, C₁-C₆-

alkylsulfonyl-amino, di(C₁-C₄-alkylsulfonyl)amino, arylsulfonylamino, di(arylsulfonyl)amino, C₃-C₆-cycloalkylcarbonylmethyl, 1,3-dioxo-propane-1,3-diyl, amino(hydroxyimino)methyl and benzo,

or a salt, a hydrate ~~solvate~~ or a hydrate ~~solvate~~ of a salt thereof.

2. (Currently amended) A compound of the formula (I) as claimed in claim 1,
in which

R¹ represents 1-azabicyclo[2.2.2]oct-3-yl,

R² represents hydrogen or C₁-C₆-alkyl,

R³ represents hydrogen, halogen or C₁-C₆-alkyl,

A represents oxygen or sulfur,

and

the ring B represents benzo, pyrimido, pyridazo or pyridazino which is substituted by a radicals selected from the group consisting of halogen, formyl, carbamoyl, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, formamido, acetamido, (C₁-C₆-alkyl, (C₁-C₆)-alkoxy, (C₁-C₆)-alkylthio and benzo,

or a salt, a hydrate ~~solvate~~ or a hydrate ~~solvate~~ of a salt thereof.

3. (Currently amended) A compound of the formula (I) as claimed in claim 1,
in which

R¹ represents 1-azabicyclo[2.2.2]oct-3-yl,

R² represents hydrogen,

R³ represents hydrogen, chlorine, fluorine or methyl,

A represents oxygen or sulfur,

and

the ring B represents benzo which is substituted by 1 to 3 radicals selected from the group consisting of halogen, formyl, carbamoyl, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, formamido, acetamido, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-alkylthio, C₁-C₄-alkylamino, furylcarbonylamino, phenylcarbonylamino, methylsulfonylamino, di(phenylsulfonyl)amino, cyclopropylcarbonylmethyl, 1,3-dioxapropane-1,3-diyl, amino(hydroxyiminio)methyl and benzo,

or a salt, a hydrate solvate or a hydrate solvate of a salt thereof.

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4. (Original) A compound as claimed in claim 1 of the formula (I), where R¹ represents (3R)-1-azabicyclo[2.2.2]oct-3-yl, and R², R³, A and the ring B are as defined in claim 1.

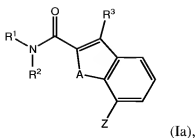
5. (Currently amended) A compound as claimed in claim 1 of the formula (I), where R¹ represents (3R)-1-azabicyclo[2.2.2]oct-3-yl, and R², and R³ represent hydrogen, A represents sulfur,

and

the ring B represents benzo which is substituted by 1 to 3 radicals selected from the group consisting of halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, formamido, acetamido and C₁-C₄-alkyl,

or a salt, a hydrate solvate or a hydrate solvate of a salt thereof.

6. (Currently amended) A compound of the formula Ia:



in which

R¹ represents 1-azabicyclo[2.2.2]oct-3-yl,

R² represents hydrogen or C₁-C₆-alkyl,

R³ represents hydrogen, halogen or C₁-C₆-alkyl,

A represents oxygen or sulfur,

and

Z represents halogen, formyl, carbamoyl, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, formamido, acetamido, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino, heteroaryl-carbonylamino, arylcarbonylamino, C₁-C₄-alkylsulfonylamino, di(arylsulfonyl)amino, C₃-C₆-cycloalkylcarbonylmethyl or amino(hydroxyimino)methyl, or a salt, a hydrate solvate or a hydrate solvate of a salt thereof.

7. (Currently amended) A compound as claimed in claim 6 of the formula (Ia),
in which

R¹ represents 1-azabicyclo[2.2.2]oct-3-yl,

R² represents hydrogen,

R³ represents hydrogen, chlorine, fluorine or methyl,

A represents oxygen or sulfur,

and

Z represents halogen, formyl, carbamoyl, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, formamido, acetamido, methyl, ethyl, methoxy, ethoxy, C1-C4-alkylamino, furylcarbonylamino, phenylcarbonylamino, methylsulfonylamino, di(phenyldulfonyl)amino, cyclopropylcarbonylmethyl or amino(hydroxyimino)methyl, or a salt, a hydrate solvate or a hydrate solvate of a salt thereof.

8. (Currently amended) A compound as claimed in claim 6 of the formula (Ia), in which

R¹ represents (3R)-1-azabicyclo[2.2.2]oct-3-yl,

R² represents hydrogen,

R³ represents hydrogen, chlorine, fluorine or methyl,

A represents oxygen or sulfur,

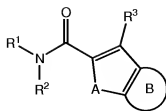
and

Z represents halogen, formyl, carbamoyl, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, formamido, acetamido, methyl, ethyl, methoxy, ethoxy, C1-C4-alkylamino, furylcarbonylamino, phenylcarbonylamino, methylsulfonylamino, di(phenyldulfonyl)amino, cyclopropylcarbonylmethyl or amino(hydroxyimino)methyl, or a salt, a hydrate solvate or a hydrate solvate of a salt thereof.

9. (Withdrawn) A process for preparing compounds of formula (I) as claimed in claim 1, characterized in that compounds of the formula



in which R¹ and R² are as defined in claim 1 are reacted with a compound of the formula



(III),

in which

R^3 , A and the ring B are as defined in ~~claim 1~~ and

X represents hydroxyl or a suitable leaving group,

in an inert solvent, if appropriate in the presence of a condensing agent and if appropriate in the presence of a base.

10. (Cancelled)

11. (Currently Amended) A ~~medicament~~ pharmaceutical composition comprising at least one of the compounds as claimed in any of claims 6-8 in a mixture with at least one pharmaceutically acceptable, essentially nontoxic carrier or excipient.

12. (Withdrawn) The use of compounds as claimed in any of claims 1 to 8 for preparing a medicament for improving perception, concentration, learning and/or memory.

13. (Cancelled)

14. (Cancelled)

15. (Withdrawn) A method for controlling in impairments of perception, concentration, learning and/or memory humans or animals by administering an effective amount of a compound as claimed in claims 1 to 8.

16. (Previously presented) The compound of claim 6 wherein A represents oxygen.

17. (Previously presented) The compound of claim 7 wherein A represents oxygen.

18. (Previously presented) The compound of claim 8 wherein A represents oxygen.

19. (Previously presented) The compound of claim 6 wherein A represents sulfur.

20. (Previously presented) The compound of claim 7 wherein A represents sulfur.

21. (Previously presented) The compound of claim 8 wherein A represents sulfur.

22. (Previously presented) The compound of any of claims 6-8 and 16-21 wherein Z is selected from the group consisting of: halogen, cyano, trifluoromethyl, trifluoromethoxy, methyl, ethyl, methoxy, and ethoxy.

23. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzofuran-2-carboxamide or a salt thereof.

24. (Previously presented) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzothiophene-2-carboxamide or a salt thereof.
25. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzothiophene-2-carboxamide or a salt thereof.
26. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzofuran-2-carboxamide or a salt thereof.
27. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-chloro-1-benzofuran-2-carboxamide or a salt thereof.
28. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzofuran-2-carboxamide or a salt thereof.
29. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzothiophene-2-carboxamide or a salt thereof.
30. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-chloro-1-benzothiophene-2-carboxamide or a salt thereof.
31. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-cyano-1-benzothiophene-2-carboxamide or a salt thereof.

32. (Currently amended) N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-trifluoromethyl-1-benzothiophene-2-carboxamide or a salt thereof.

33. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

34. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

35. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

36. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

37. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-chloro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

38. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

39. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

40. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-chloro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

41. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-cyano-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

42. (Currently amended) A pharmaceutical composition comprising N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-trifluoromethyl-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

43. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzofuran-2-carboxamide or a salt thereof.

44. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzothiophene-2-carboxamide or a salt thereof.

45. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzothiophene-2-carboxamide or a salt thereof.

46. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzofuran-2-carboxamide or a salt thereof.

47. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-chloro-1-benzofuran-2-carboxamide or a salt thereof.

48. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzofuran-2-carboxamide or a salt thereof.

49. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzothiophene-2-carboxamide or a salt thereof.

50. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-chloro-1-benzothiophene-2-carboxamide or a salt thereof.

51. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-cyano-1-benzothiophene-2-carboxamide or a salt thereof.

52. (New) A hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-trifluoromethyl-1-benzothiophene-2-carboxamide or a salt thereof.

53. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

54. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

55. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

56. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-fluoro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

57. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5-chloro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

58. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-5,7-difluoro-1-benzofuran-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

59. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-fluoro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

60. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-chloro-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

61. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-cyano-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.

62. (New) A pharmaceutical composition comprising a hydrate of N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-7-trifluoromethyl-1-benzothiophene-2-carboxamide or a salt thereof and a pharmaceutically acceptable carrier.